



Through the looking Glass:

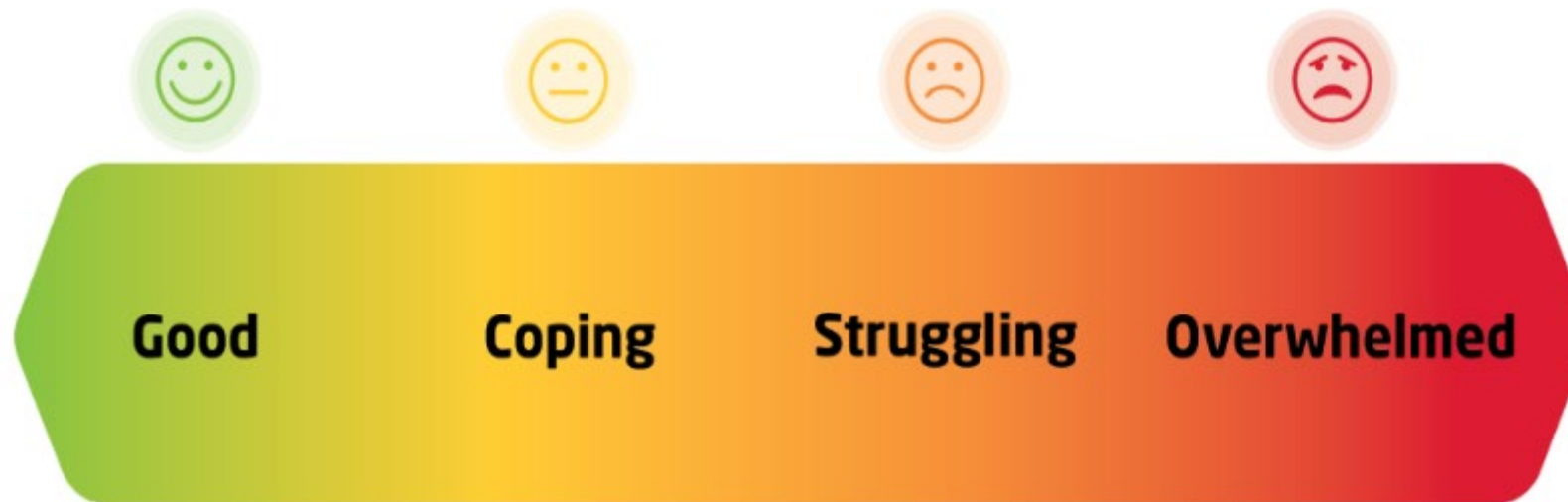
The Future of ALM

Presented by
Aaron Martini
Director ALM Services
Catalyst

How Do You See ALM Today?

Strategic Tool

Regulatory Burden



What's Our Environment Like?

Industry trends

Threats

Regulatory concerns

Tools & analysis

ALM will command
more attention:

Because of failures

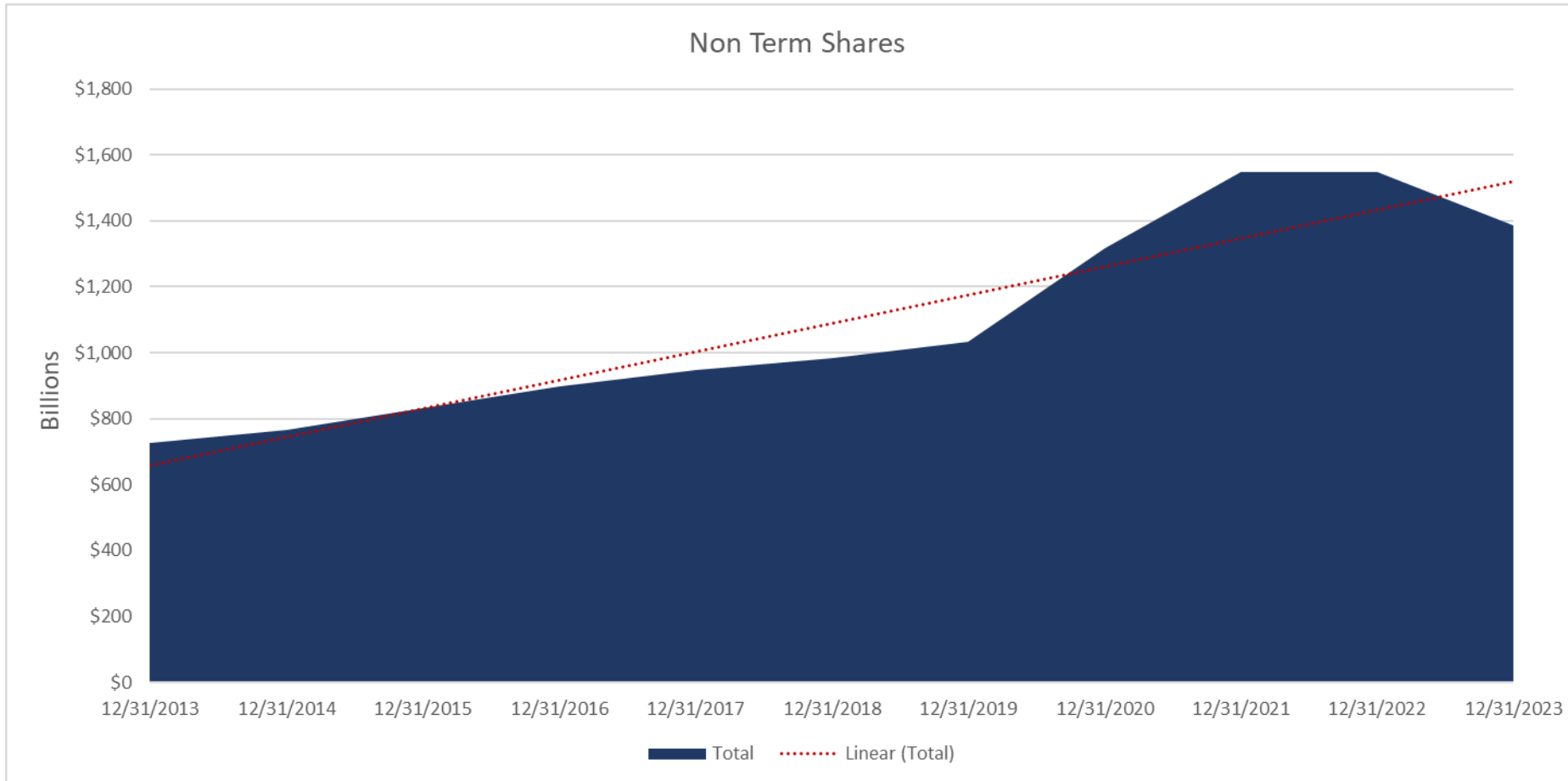
Changing competitive
landscape

Changing expectations

Industry Trends – Growth & Capital

| KEY CREDIT UNION DATA | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|-------------------------|--------|--------|--------|--------|--------|--------|
| GROWTH RATES | | | | | | |
| Total Assets | 5.85% | 8.20% | 18.31% | 12.07% | 5.67% | 4.42% |
| Total Loans | 9.51% | 6.58% | 5.44% | 8.24% | 20.53% | 6.72% |
| Total Shares | 5.68% | 8.61% | 20.89% | 13.03% | 3.88% | 2.05% |
| Net Worth | 8.85% | 8.91% | 7.33% | 11.48% | 10.47% | 6.30% |
| CAPITAL ADEQUACY | | | | | | |
| Net Worth Ratio | 11.31% | 11.38% | 10.32% | 10.27% | 10.74% | 10.93% |
| Equity Capital Ratio | 10.92% | 11.24% | 10.34% | 9.99% | 8.77% | 9.12% |
| Capital Ratio | 11.55% | 11.85% | 11.04% | 10.52% | 9.31% | 10.02% |

Industry Trends – Non Term Shares



Non-member up 26%

Certificates up 63%

MMKT down 16%

Reg Shares down 12%

How Big is the Average Credit Union?

\$356 million in total assets

11.31% Net Worth Ratio

71% Loans/Assets

11.5% Cash and Short Term Inv/Assets

0.85% Delinquency Rate

0.43% Charge-off Rate

0.69% ROA

Industry Trends – By Size

| | <\$2M | \$2-10M | \$10-50M | \$50-100M | \$100-500M | \$500M+ | Total |
|---------------------|--------|---------|----------|-----------|------------|---------|-------|
| GROWTH RATES | | | | | | | |
| Total Assets | -5.25% | -5.19% | -2.90% | -1.06% | 1.45% | 5.12% | 4.42% |
| Total Loans | 6.64% | 6.90% | 6.99% | 6.83% | 5.46% | 6.86% | 6.72% |
| Total Shares | -6.81% | -6.94% | -4.27% | -2.52% | -0.32% | 2.65% | 2.05% |
| Net Worth | 2.00% | 3.05% | 5.24% | 6.92% | 6.65% | 6.27% | 6.30% |

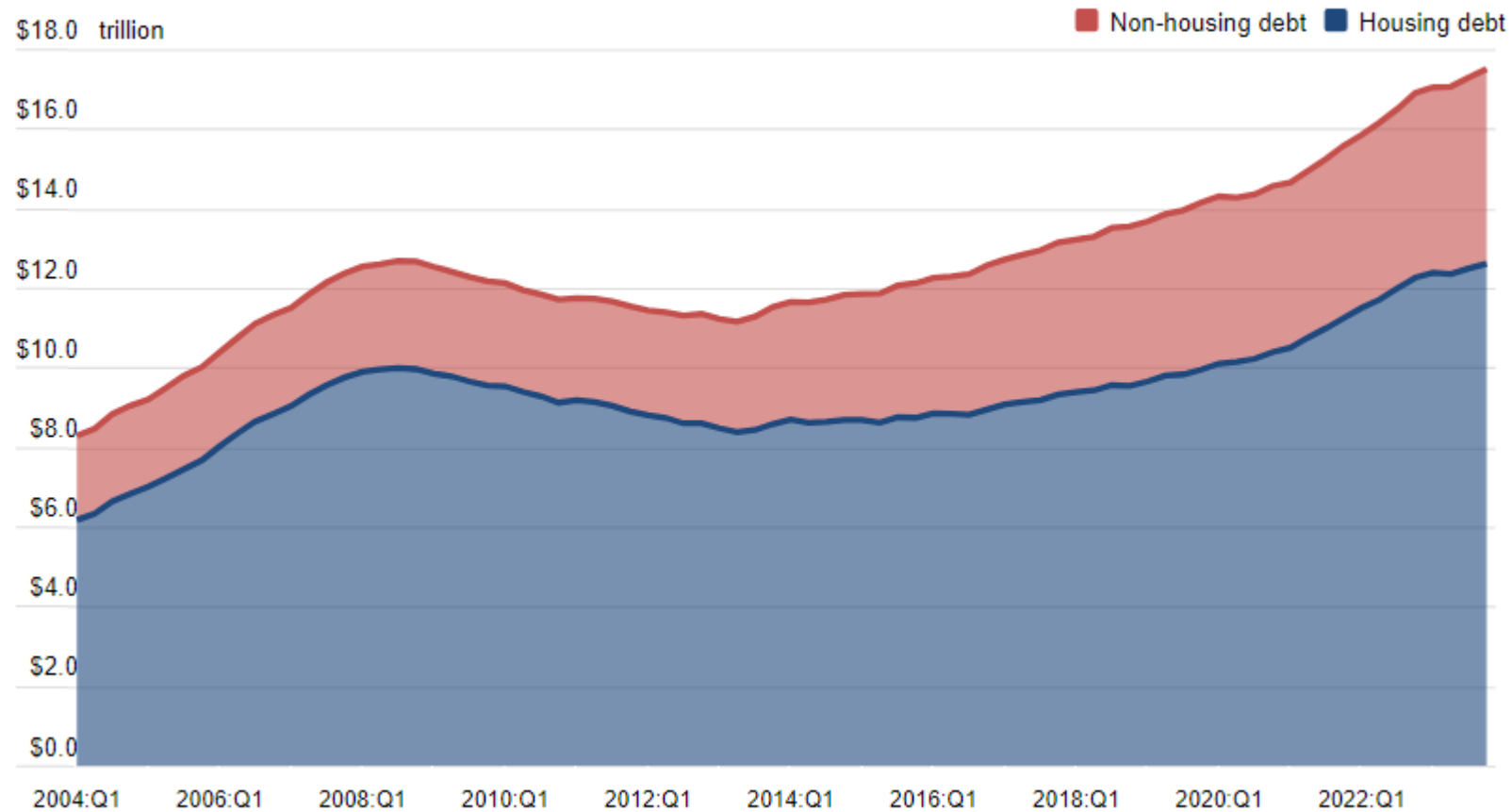
| | | | | | | | |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|
| CAPITAL ADEQUACY | | | | | | | |
| Net Worth Ratio | 19.82% | 17.57% | 13.12% | 12.64% | 11.37% | 10.78% | 11.31% |
| Equity Capital Ratio | 19.75% | 17.35% | 12.67% | 11.73% | 9.82% | 8.89% | 10.92% |
| Capital Ratio | 21.08% | 17.99% | 13.15% | 12.20% | 10.36% | 9.85% | 11.55% |

Industry Trends – Composition and Liquidity

| KEY CREDIT UNION DATA | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|-----------------------------------|--------|--------|--------|--------|--------|--------|
| BALANCE SHEET COMPOSITION | | | | | | |
| Loans/Assets | 71.76% | 70.69% | 62.99% | 60.88% | 69.45% | 71.01% |
| Vehicle Loans/Net Loans | 35.35% | 34.12% | 33.04% | 32.50% | 32.49% | 31.50% |
| RE Loans/Net Loans | 49.80% | 50.86% | 52.25% | 52.80% | 44.22% | 44.82% |
| 1st Mtg Loans/Net Loans | 41.27% | 42.55% | 44.90% | 45.97% | 39.21% | 39.20% |
| Commercial Loans/Net Loans | 6.96% | 7.54% | 8.29% | 9.07% | 9.38% | 10.01% |
| LIQUIDITY POSITION | | | | | | |
| Cash & Short-Term Invs/Assets | 11.37% | 12.85% | 18.44% | 17.16% | 10.17% | 11.47% |
| Borr. & NM Deposits/Shares & Liab | 5.46% | 4.75% | 3.39% | 2.97% | 6.06% | 7.95% |
| Net Liquid Assets/Shares & Liab | 20.68% | 22.15% | 30.36% | 33.08% | 23.82% | 21.52% |
| Net Long-term Assets/Assets | 34.49% | 34.40% | 34.65% | 39.44% | 51.46% | 51.52% |

National Lending Trends

Total Debt Balance

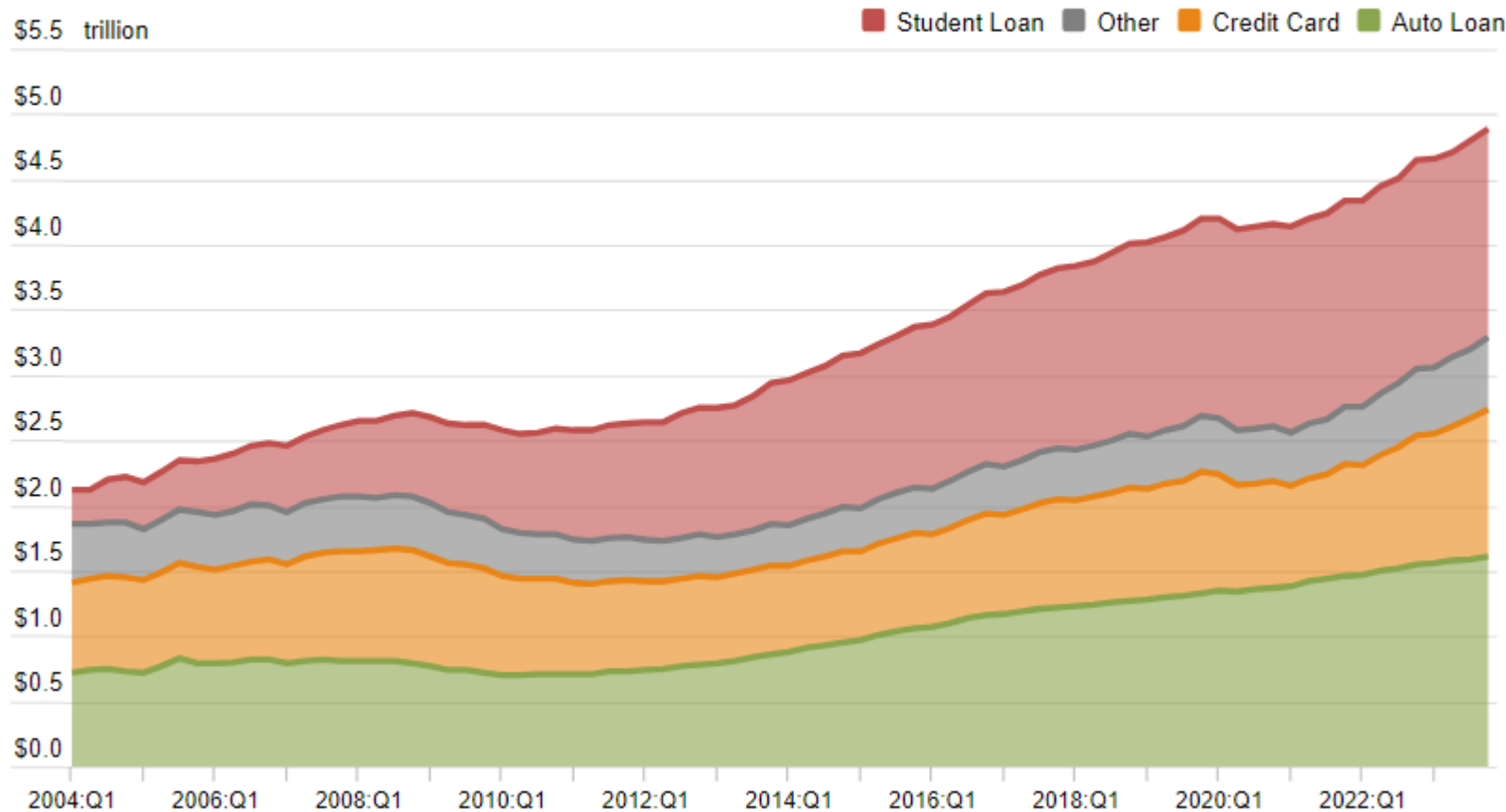


Source: FRBNY Consumer Credit Panel/Equifax

- Total Debt \$17.5T, up \$212B in Q4
- Mtg debt up \$112B in Q4, total \$12.25T
- HELOCs up \$11B in Q4, total \$360B
- 7Q HELOC growth streak

National Lending Trends

Non-Housing Debt Balance



Source: FRBNY Consumer Credit Panel/Equifax

- CC debt up \$50B in Q4, total \$1.13T
- CC 4.6% growth
- Autos up \$12B in Q4, total \$1.61T
- SLs flat mere \$2B increase
- Overall, Non-housing up \$89B

Industry Trends – By Size

| | <\$2M | \$2-10M | \$10-50M | \$50-100M | \$100-500M | \$500M+ | Total |
|----------------------------------|--------|---------|----------|-----------|------------|---------|--------|
| BALANCE SHEET COMPOSITION | | | | | | | |
| Loans/Assets | 48.08% | 53.40% | 53.31% | 57.00% | 65.83% | 72.36% | 71.01% |
| Vehicle Loans/Net Loans | 63.99% | 68.41% | 52.61% | 45.49% | 38.84% | 30.04% | 31.50% |
| RE Loans/Net Loans | 1.00% | 6.54% | 28.25% | 36.44% | 40.68% | 45.75% | 44.82% |
| 1st Mtg Loans/Net Loans | 0.88% | 5.45% | 24.97% | 31.13% | 35.04% | 40.08% | 39.20% |
| Commercial Loans/Net Loans | 0.40% | 0.33% | 1.41% | 3.55% | 7.43% | 10.56% | 10.01% |
| LIQUIDITY POSITION | | | | | | | |
| Cash & Short-Term Invs/Assets | 41.19% | 30.01% | 22.55% | 18.74% | 12.98% | 10.86% | 11.47% |
| Borr. & NM Deposits/Shares & Li | 1.73% | 1.63% | 1.59% | 2.25% | 4.11% | 8.70% | 7.95% |
| Net Liquid Assets/Shares & Liab | 52.77% | 44.61% | 39.79% | 39.96% | 29.98% | 19.66% | 21.52% |
| Net Long-term Assets/Assets | 3.86% | 8.61% | 25.90% | 35.04% | 46.70% | 53.08% | 51.52% |

Industry Trends – Loan Quality & Earnings

| KEY CREDIT UNION DATA | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|-------------------------------|--------|--------|--------|--------|--------|--------|
| LOAN QUALITY | | | | | | |
| Delinquency Rate | 0.74% | 0.72% | 0.62% | 0.51% | 0.67% | 0.85% |
| Net Charge-off Rate | 0.41% | 0.40% | 0.30% | 0.16% | 0.22% | 0.43% |
| EARNINGS | | | | | | |
| Investment Yield | 2.04% | 2.37% | 1.35% | 0.89% | 1.63% | 3.06% |
| Loan Yield | 4.69% | 4.90% | 4.71% | 4.37% | 4.44% | 5.25% |
| Asset Yield | 3.82% | 4.06% | 3.53% | 3.02% | 3.38% | 4.44% |
| Cost of Funds | 0.69% | 0.89% | 0.70% | 0.43% | 0.52% | 1.42% |
| Gross Net Margin | 3.13% | 3.17% | 2.83% | 2.59% | 2.87% | 3.02% |
| Provision Expense | -0.46% | -0.43% | -0.50% | -0.06% | -0.26% | -0.51% |
| Net Interest Margin | 2.67% | 2.74% | 2.33% | 2.53% | 2.61% | 2.51% |
| Net Operating Expense | 1.76% | 1.81% | 1.63% | 1.47% | 1.73% | 1.83% |
| Net Income (Return on Assets) | 0.92% | 0.93% | 0.70% | 1.06% | 0.88% | 0.69% |

Industry Trends – By Size

| | <\$2M | \$2-10M | \$10-50M | \$50-100M | \$100-500M | \$500M+ | Total |
|-------------------------------|--------|---------|----------|-----------|------------|---------|--------|
| LOAN QUALITY | | | | | | | |
| Delinquency Rate | 3.74% | 1.68% | 1.27% | 1.08% | 0.98% | 1.33% | 1.28% |
| Net Charge-off Rate | 3.41% | 1.45% | 1.07% | 0.87% | 0.73% | 0.86% | 0.85% |
| | 0.32% | 0.23% | 0.20% | 0.21% | 0.25% | 0.46% | 0.43% |
| EARNINGS | | | | | | | |
| Investment Yield | 2.12% | 2.47% | 2.40% | 2.39% | 2.60% | 3.19% | 3.06% |
| Loan Yield | 6.89% | 6.05% | 5.54% | 5.34% | 5.20% | 5.25% | 5.25% |
| Asset Yield | 4.28% | 4.23% | 3.90% | 3.88% | 4.12% | 4.51% | 4.44% |
| Cost of Funds | 0.48% | 0.62% | 0.59% | 0.65% | 0.94% | 1.52% | 1.42% |
| Gross Net Margin | 3.80% | 3.61% | 3.31% | 3.23% | 3.18% | 2.99% | 3.02% |
| Provision Expense | -0.45% | -0.25% | -0.21% | -0.21% | -0.27% | -0.55% | -0.51% |
| Net Interest Margin | 3.34% | 3.35% | 3.10% | 3.02% | 2.91% | 2.43% | 2.51% |
| Net Operating Expense | 3.23% | 2.98% | 2.49% | 2.28% | 2.23% | 1.75% | 1.83% |
| Net Income (Return on Assets) | 0.11% | 0.37% | 0.62% | 0.74% | 0.69% | 0.69% | 0.69% |

Cost of Funds

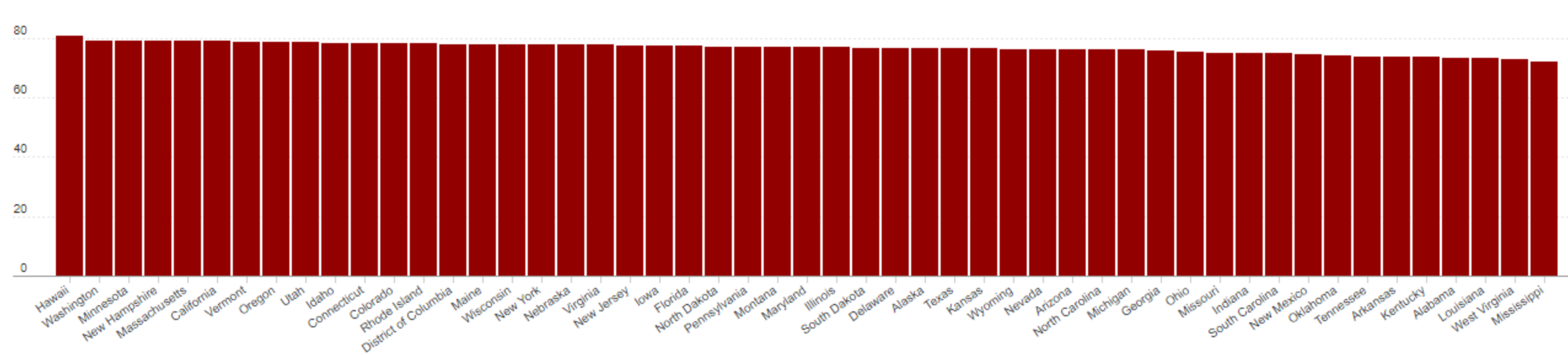
| Time Deposit | Average | 1 Yr ago | Difference |
|------------------|---------|----------|------------|
| 1 Mo CD - \$10k | 0.27 | 0.20 | 0.07 |
| 3 Mo CD - \$10k | 1.37 | 0.54 | 0.83 |
| 6 Mo CD - \$10k | 1.65 | 0.90 | 0.75 |
| 9 Mo CD - \$10k | 1.45 | 0.91 | 0.54 |
| 1 Yr CD - \$10k | 1.85 | 1.33 | 0.52 |
| 18 Mo CD - \$10k | 1.52 | 1.23 | 0.29 |
| 2 Yr CD - \$10k | 1.61 | 1.34 | 0.27 |
| 30 Mo CD - \$10k | 1.15 | 1.02 | 0.13 |
| 3 Yr CD - \$10k | 1.52 | 1.29 | 0.23 |
| 4 Yr CD - \$10k | 1.44 | 1.27 | 0.17 |
| 5 Yr CD - \$10k | 1.52 | 1.36 | 0.16 |

| Jumbo Time Deposit | Average | 1 Yr ago | Difference |
|--------------------|---------|----------|------------|
| 1 Mo CD - \$100k | 0.36 | 0.26 | 0.10 |
| 3 Mo CD - \$100k | 1.44 | 0.61 | 0.83 |
| 6 Mo CD - \$100k | 1.71 | 0.97 | 0.74 |
| 9 Mo CD - \$100k | 1.51 | 1.01 | 0.50 |
| 1 Yr CD - \$100k | 1.93 | 1.40 | 0.53 |
| 18 Mo CD - \$100k | 1.58 | 1.29 | 0.29 |
| 2 Yr CD - \$100k | 1.68 | 1.39 | 0.29 |
| 30 Mo CD - \$100k | 1.20 | 1.08 | 0.12 |
| 3 Yr CD - \$100k | 1.55 | 1.33 | 0.22 |
| 4 Yr CD - \$100k | 1.48 | 1.31 | 0.17 |
| 5 Yr CD - \$100k | 1.56 | 1.40 | 0.16 |

| Money Market | Average | 1 Yr ago | Difference |
|-----------------------|---------|----------|------------|
| Money Market - \$2.5k | 0.46 | 0.34 | 0.12 |
| Money Market - \$10k | 0.54 | 0.40 | 0.14 |
| Money Market - \$25k | 0.65 | 0.49 | 0.16 |
| Money Market - \$50k | 0.74 | 0.56 | 0.18 |
| Money Market - \$100k | 0.94 | 0.68 | 0.26 |
| Money Market - \$250k | 1.03 | 0.75 | 0.28 |
| Premium MMKT - \$10k | 1.15 | 0.68 | 0.47 |
| Premium MMKT - \$25k | 1.34 | 0.93 | 0.41 |
| Premium MMKT - \$50k | 1.48 | 1.00 | 0.48 |
| Premium MMKT - \$100k | 1.82 | 1.33 | 0.49 |
| Premium MMKT - \$250k | 1.94 | 1.45 | 0.49 |

Threats

Expiration date on your deposits

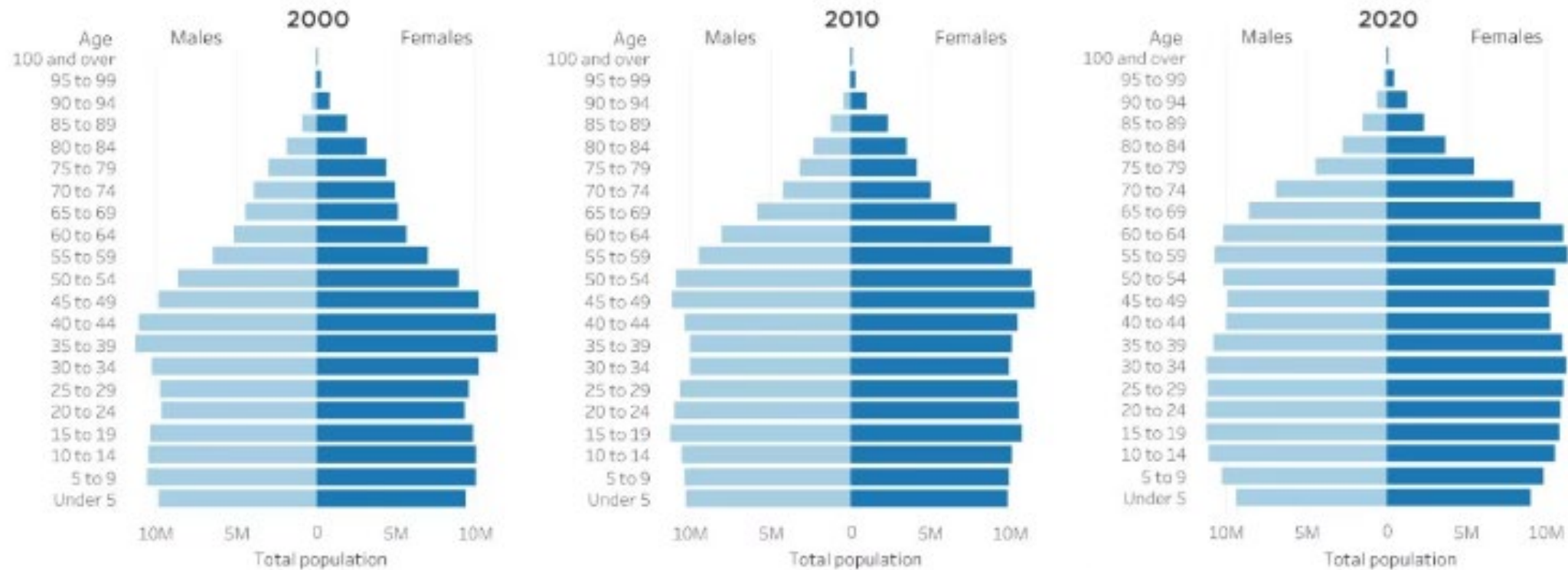


Hawaii 80.7 years, Mississippi 71.9 years.

12.2% longer life!

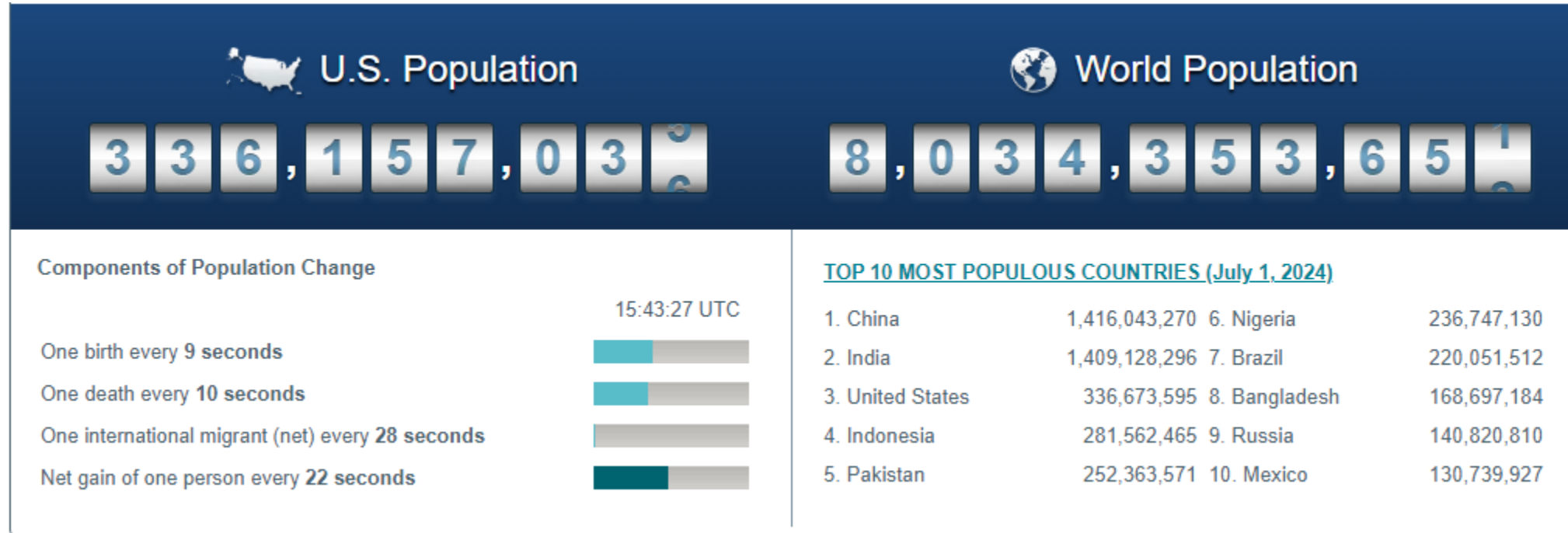
Threats

Population Pyramids for the United States: 2000, 2010 and 2020
(In millions)



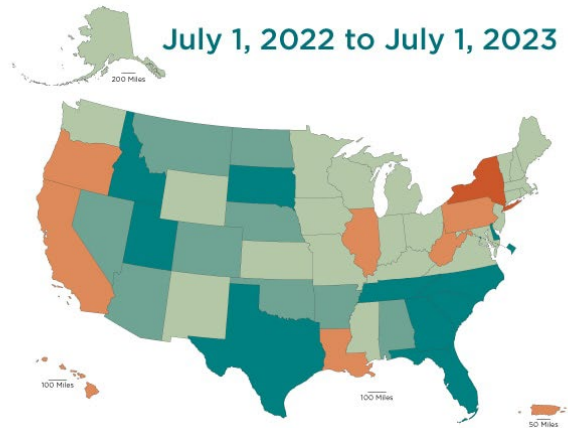
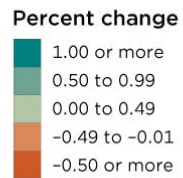
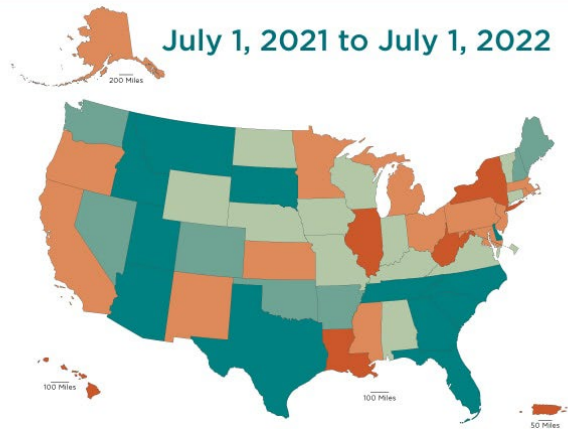
Source: U.S. Census Bureau, Census 2000 Summary File 1 (SF1), 2010 Census Summary File 1 (SF1) and 2020 Census Demographic and Housing Characteristics File (DHC).

Threats



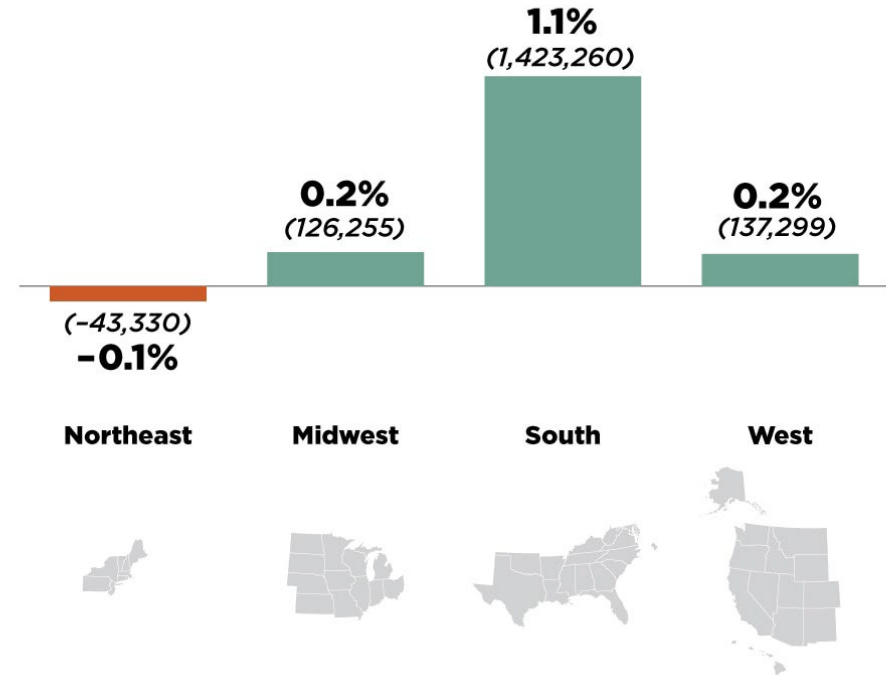
Threats

Percent Change in State Population



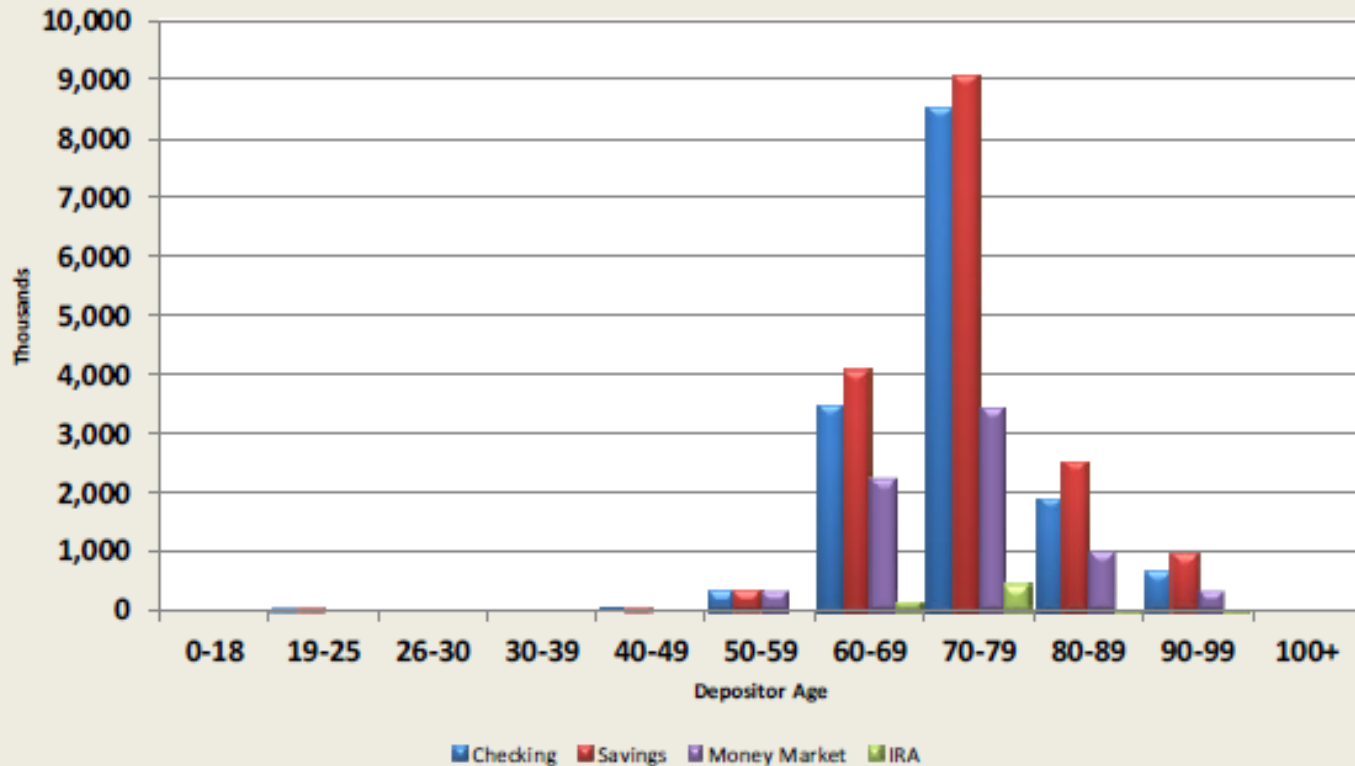
Population Change by Region

July 1, 2022 to July 1, 2023



Threats – Age distribution

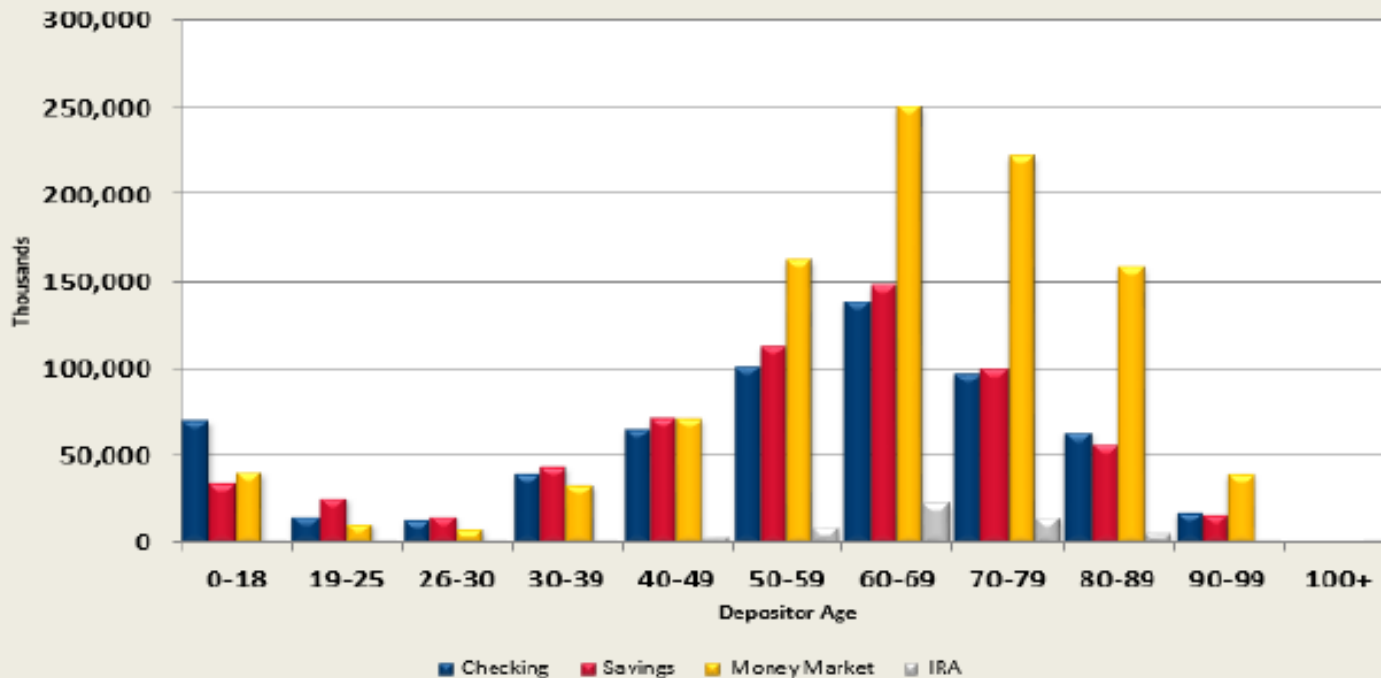
Current Balance of All Accounts



- Not viable in the long run
- Severe age concentration
- Any asset duration poses real risk to the capital of the institution and potentially the insurance fund

Threats – Age distribution

Current Balance of All Accounts



- Better age distribution
- No significant uninsured depositor exposure
- 21% of funding opened accounts within the past 10 years.
- 79% of funding is from long standing relationships

Threats – Sleek Competitors



Threats – Sleek Competitors

- “Apple is creating this flywheel effect, an ecosystem of Apple cash,” he said. “It’s very much a loyalty play because it’s a multi-level process: To get the Apple credit card you need the phone, and to get the savings account you need the credit card. This isn’t typical — if you go with American Express, you can get a credit card without opening a bank account.”
- Apple announced the federally insured account — serviced by Goldman Sachs Bank — in April 2023.
- The fact that Apple’s savings option is open only to Apple Card customers hasn’t seemed to hurt its popularity. In August 2023, Apple announced the account had reached more than \$10 billion in deposits since its launch. To compare, only about 150 U.S. banks (out of more than 4,500) had deposits of more than \$10 billion in the third quarter of 2023, according to data from the Federal Deposit Insurance Corp.

Source: CNN Business “Apple is giving banks a run for their money”,
Nerdwallet; “Apple’s 4.50% APY High yield Savings account: What to know”

Threats – Sleek Competitors

- Santander Bank on Wednesday announced the introduction of Financial Centers, a new banking format that provides customers with in-person support and assistance on digital transactions.
- 92% of middle-income Americans said being able to control when, where and how they access their bank accounts and services is important to them, and 86% of middle-income Americans are completing at least half their banking transactions digitally.
- “The work we are doing in our physical locations to educate customers on taking advantage of all we offer, including the digital channels that allow them to engage with us more efficiently, is critically important.”

Source: ROI-nj.com “Santander evolves in-person bank format in Hoboken with new experience to meet customer needs”

Threats – Money moves faster

- Better information about rates
- Easy/fast to move funds electronically

Top Local Branch Rates

| Savings | Checking | 1 Year CD | 5 Year CD |
|---------|---|-----------|-----------|
| 5.26% | Customers Bank High Yield Savings Account by Raisin | | |
| 5.10% | Texas Capital Bank Star High Yield Savings Account - Texas | | |
| 5.00% | Neighborhood Credit Union Max Savings Account - Online/New | | |
| 5.00% | Hanmi Bank Simple Saving | | |
| 4.80% | First Mid High Yield Savings Account Via Raisin | | |

[Compare all savings account options »](#)



Source: depositaccounts.com, which.co.uk

Regulation Focus

- Credit Risk
- Liquidity Risk
- Consumer Financial Protection
- Information Security
- Interest Rate Risk

Liquidity Risk

Examiners assess liquidity management by evaluating:

- Changing interest rates impact on
 - Market value of assets
 - Borrowing capacity
- Scenario analysis, including possible member share migrations.
- Scenario analysis for relevant factors (prepayment speeds).
- Cost of funding alternatives and impact on earnings and capital.
- Diversity of funding sources under normal & stressed conditions.
- Appropriateness of contingency funding plans.

Interest Rate Risk

Examiners review IRR programs for risk management & control activities:

- Assumptions and data sets are reasonable and well documented.
- Back testing and sensitivity testing of the assumption set.
- Overall level of IRR exposure is properly measured and controlled.
- Results are communicated to decision-makers and the board.
- Proactive action to remain within safe and sound policy limits.

Tools to deploy

1. Positive mindset

- “Everything was new to you at some point in your life, and you managed to learn it”
- If you’re not first, you’re not dead
- Technology helps – lowers barriers to entry, levels playing field

2. Tools of the trade

- Derivatives
- Buy/sell
- ALM Theory
- Scenario Testing

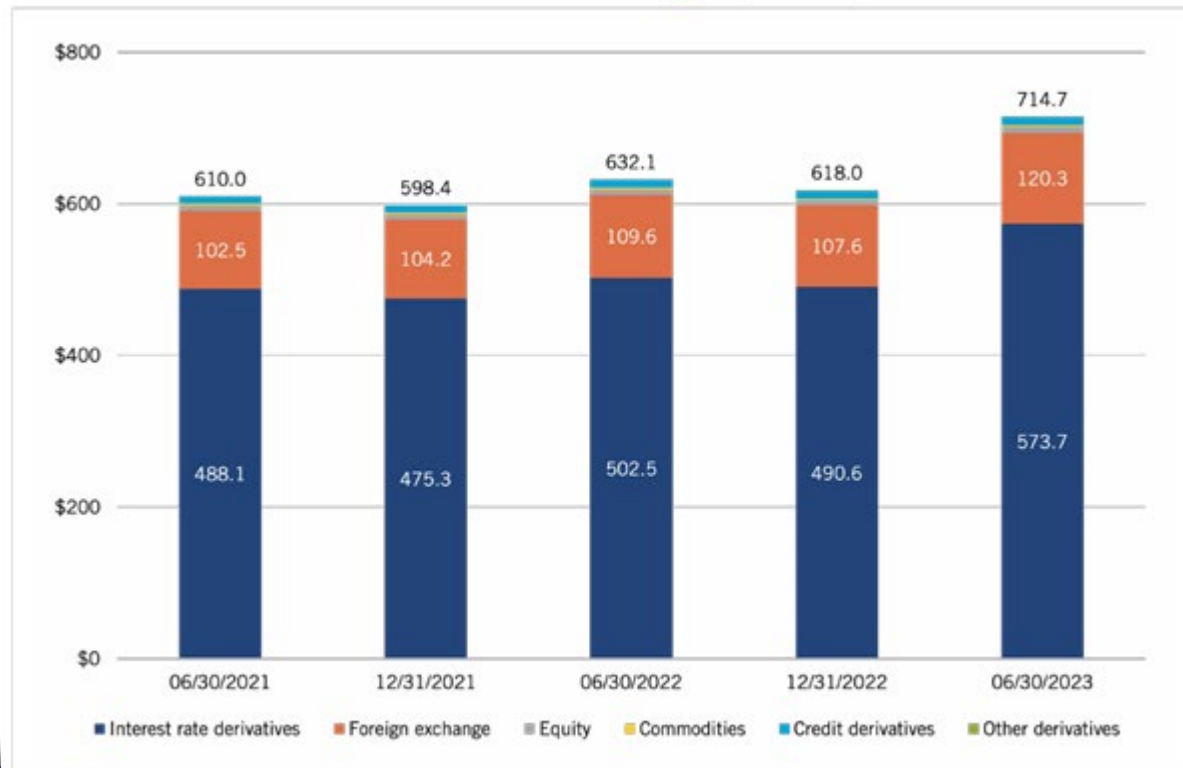
| | Perfect Competition | Monopolistic Competition | Oligopoly | Monopoly |
|----------------------------|---------------------|---------------------------|----------------------------|-----------------------------|
| Firms | Large number | Large Number | Small Number | One |
| Products | Identical | Differentiated | Similar. Differentiated | No close substitutes |
| Barriers to entry and exit | No barriers | Freedom of entry and exit | Some barriers to entry | Effective barriers to entry |
| Control over market price | No Control | Small Control | Substantial control | Significant control. |

Derivatives

Interest Rate Swaps comprise the vast majority of derivative transactions

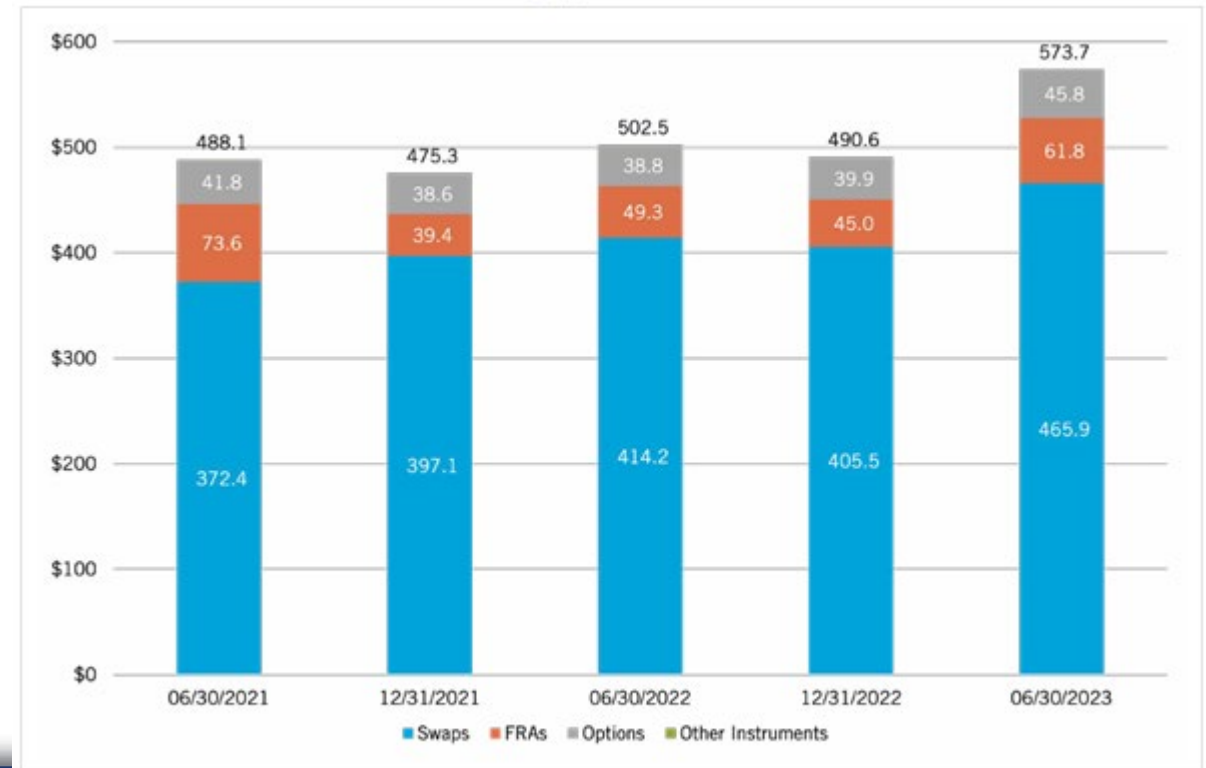
- Interest Rate Derivatives: 80% of all Derivatives Globally
- Interest Rate Swaps: 81% of all Interest Rate Derivatives

Chart 1: Global OTC Derivatives Notional Outstanding (US\$ trillions)



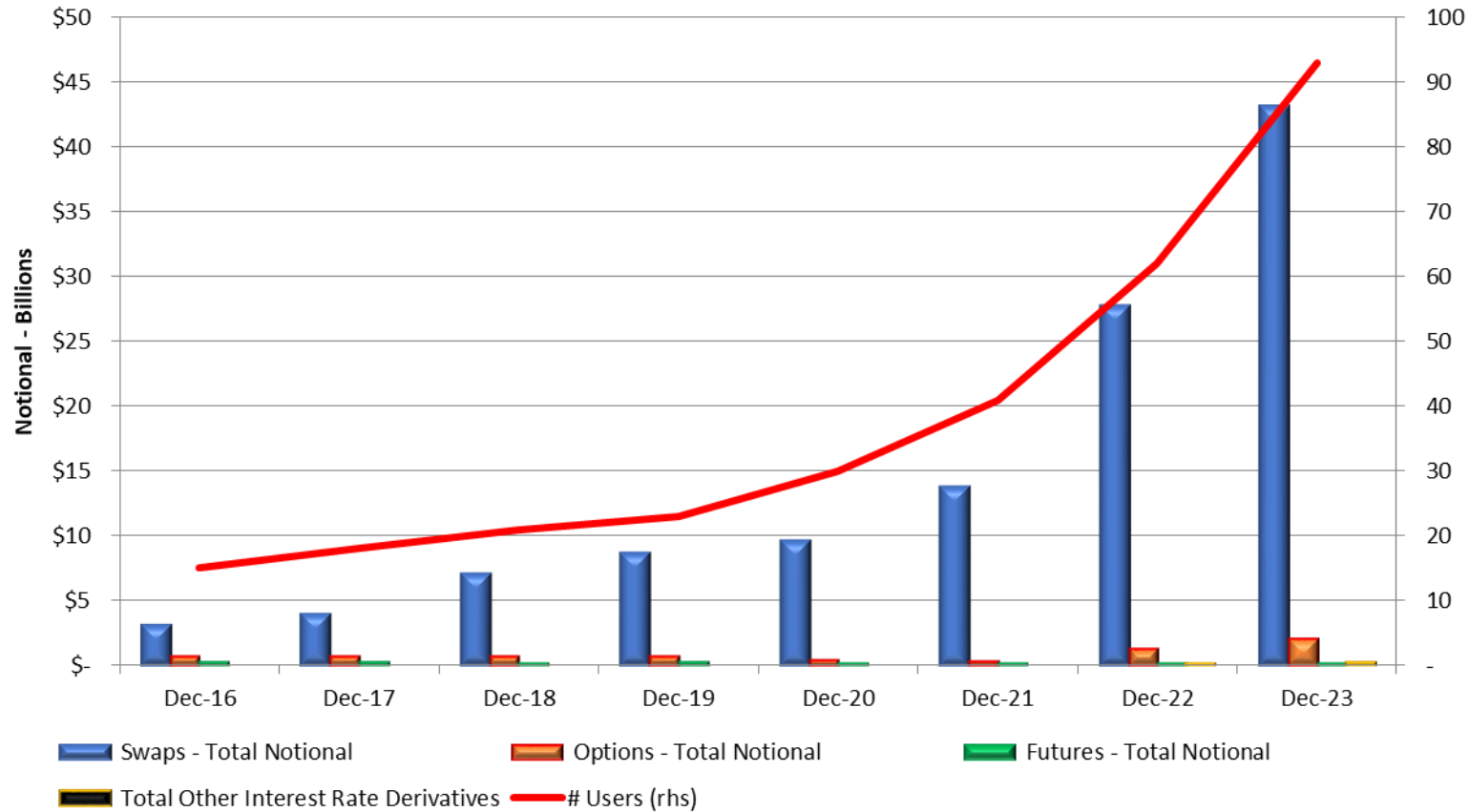
Source: BIS OTC Derivatives Statistics

Chart 6: Global IRD Notional Outstanding by Product (US\$ trillions)



Source: BIS OTC Derivatives Statistics

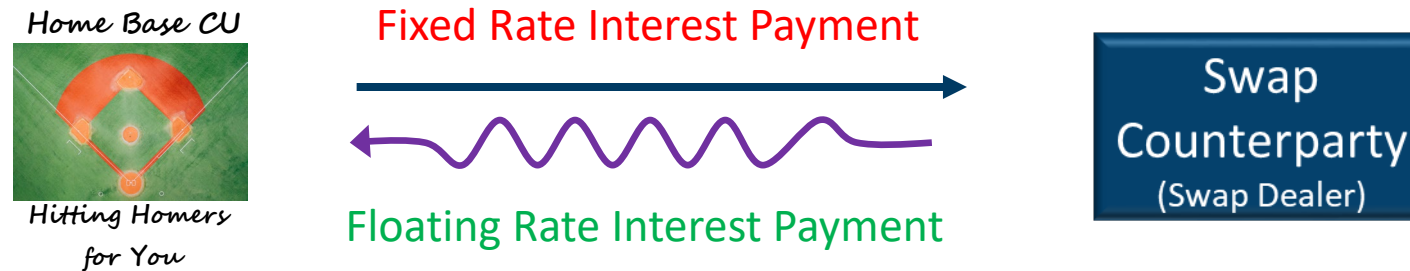
Derivatives in Credit Unions



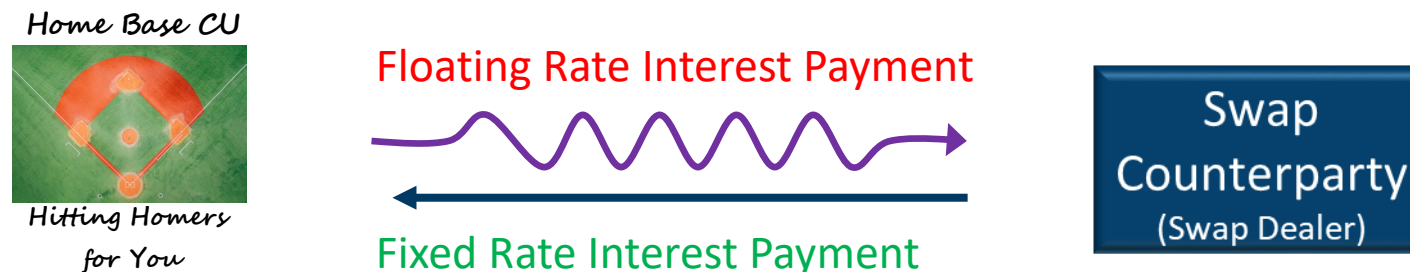
Swap Basics

- “Plain Vanilla” Swaps (most basic and common): Agreement between two parties to exchange interest rate payments based on a set notional amount

1) **Pay fixed Rate /Receive Variable Rate:** e.g., Convert fixed rate mortgages to variable rate



2) **Receive fixed Rate/Pay Variable Rate:** e.g., Convert fixed rate certificates to variable rate



What Are Our Expectations?

CME FEDWATCH TOOL - MEETING PROBABILITIES

| MEETING DATE | 300-325 | 325-350 | 350-375 | 375-400 | 400-425 | 425-450 | 450-475 | 475-500 | 500-525 | 525-550 |
|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 5/1/2024 | | | | | 0.0% | 0.0% | 0.0% | 0.0% | 12.3% | 87.7% |
| 6/12/2024 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 8.9% | 66.7% | 24.4% |
| 7/31/2024 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 4.2% | 36.4% | 46.6% | 12.8% |
| 9/18/2024 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.4% | 29.9% | 44.6% | 19.6% | 2.6% |
| 11/7/2024 | 0.0% | 0.0% | 0.0% | 0.0% | 1.7% | 16.5% | 37.2% | 32.2% | 11.2% | 1.3% |
| 12/18/2024 | 0.0% | 0.0% | 0.0% | 1.1% | 11.7% | 30.5% | 33.8% | 18.0% | 4.5% | 0.4% |
| 1/29/2025 | 0.0% | 0.0% | 0.6% | 6.5% | 21.3% | 32.2% | 25.7% | 11.1% | 2.4% | 0.2% |
| 3/19/2025 | 0.0% | 0.3% | 3.8% | 14.6% | 27.2% | 28.7% | 17.7% | 6.4% | 1.2% | 0.1% |
| 4/30/2025 | 0.1% | 1.8% | 8.3% | 19.8% | 27.8% | 24.1% | 13.0% | 4.2% | 0.7% | 0.1% |

CME FEDWATCH TOOL - TOTAL PROBABILITIES

| MEETING DATE | DAYS TO MEETING | EASE | NO CHANGE | HIKE |
|--------------|-----------------|---------|-----------|--------|
| 5/1/2024 | 38 | 12.28 % | 87.72 % | 0.00 % |
| 6/12/2024 | 80 | 75.60 % | 24.40 % | 0.00 % |
| 7/31/2024 | 129 | 87.20 % | 12.80 % | 0.00 % |
| 9/18/2024 | 178 | 97.44 % | 2.56 % | 0.00 % |
| 11/7/2024 | 228 | 98.71 % | 1.29 % | 0.00 % |
| 12/18/2024 | 269 | 99.58 % | 0.42 % | 0.00 % |
| 1/29/2025 | 311 | 99.79 % | 0.21 % | 0.00 % |
| 3/19/2025 | 360 | 99.91 % | 0.09 % | 0.00 % |
| 4/30/2025 | 402 | 99.95 % | 0.05 % | 0.00 % |

Use ALM Theory

| Forecasted Earnings over 3 Years | | | | | | | |
|----------------------------------|------|-------|-------------|------------|------------|------------|------------|
| Product | Term | Rate | Balance | basecase | -0.25% | -0.75% | -1.00% |
| New Vehicle | 72 | 7.22% | \$10,000.00 | \$1,464.46 | \$1,410.73 | \$1,303.96 | \$1,250.91 |
| Fixed Rate 1st Lien Mortgage | 360 | 6.94% | \$10,000.00 | \$1,837.91 | \$1,760.08 | \$1,607.07 | \$1,531.88 |
| 1/1 ARM | 360 | 6.63% | \$10,000.00 | \$1,616.20 | \$1,572.63 | \$1,479.39 | \$1,396.47 |

If we expect rates to go down, extending duration is probably a smart play

Considerations

- Rate decline won't be so rapid that many are "in the money" for Rifi activity
- Are we forecasting considerable funding loss

Will we be able to slash cost of funds if rates go down?

Scenario Testing

| Projected Earnings Analysis | Projected Income/Expense (Year 1) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,326 | 14,940 | 15,530 |
| Interest Expense | 2,215 | 2,724 | 3,250 |
| Net Interest Income | 12,111 | 12,216 | 12,280 |
| Dollar Change | (169) | (63) | |
| Percent Change | -1.38% | -0.52% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 7,416 | 7,522 | 7,585 |
| Dollar Change | (169) | (63) | |
| Percent Change | -2.23% | -0.84% | |
| Projected ROA | 1.89% | 1.92% | 1.94% |
| Net Interest Margin | 3.31% | 3.33% | 3.35% |

| Projected Earnings Analysis | Projected Income/Expense (Year 2) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 13,148 | 14,582 | 15,954 |
| Interest Expense | 1,668 | 2,508 | 3,364 |
| Net Interest Income | 11,480 | 12,075 | 12,590 |
| Dollar Change | (1,110) | (516) | |
| Percent Change | -8.81% | -4.09% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,786 | 7,380 | 7,895 |
| Dollar Change | (1,110) | (516) | |
| Percent Change | -14.06% | -6.53% | |
| Projected ROA | 1.73% | 1.89% | 2.02% |
| Net Interest Margin | 3.13% | 3.30% | 3.44% |

Total Assets 390 Million, Loan/Assets 59.5%, 25% Autos, 21% 1st Lien

Funding: NW 14.9%, 11% CDs with 90% under 1 yr, MMKT 25.6% Dn beta 32%, IRA Dn beta 25%, Regs Dn Beta 5%

Scenario Testing – NMDs Don't Fall

| Projected Earnings Analysis | Projected Income/Expense (Year 1) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,326 | 14,940 | 15,530 |
| Interest Expense | 2,814 | 3,118 | 3,250 |
| Net Interest Income | 11,511 | 11,822 | 12,280 |
| Dollar Change | (768) | (458) | |
| Percent Change | -6.26% | -3.73% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,817 | 7,127 | 7,585 |
| Dollar Change | (768) | (458) | |
| Percent Change | -10.13% | -6.04% | |
| Projected ROA | 1.74% | 1.82% | 1.94% |
| Net Interest Margin | 3.14% | 3.23% | 3.35% |

| Projected Earnings Analysis | Projected Income/Expense (Year 2) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 13,148 | 14,582 | 15,954 |
| Interest Expense | 2,267 | 2,902 | 3,364 |
| Net Interest Income | 10,881 | 11,680 | 12,590 |
| Dollar Change | (1,709) | (910) | |
| Percent Change | -13.58% | -7.23% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,186 | 6,985 | 7,895 |
| Dollar Change | (1,709) | (910) | |
| Percent Change | -21.65% | -11.53% | |
| Projected ROA | 1.58% | 1.78% | 2.02% |
| Net Interest Margin | 2.97% | 3.19% | 3.44% |

MMKT 25.6% Dn beta ~~32%~~ 0% first Dn 100, then 10%

IRA Dn beta ~~25%~~ 0% first Dn 100, then 5%

Regs Dn Beta ~~5%~~ 0% first Dn 100, then 1%

Results: lost \$395K Yr1, in Dn100, and \$599K for Dn200

Scenario Testing – Mitigate Deploy Cash

| Projected Earnings Analysis | Projected Income/Expense (Year 1) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,751 | 15,282 | 15,784 |
| Interest Expense | 2,814 | 3,118 | 3,250 |
| Net Interest Income | 11,936 | 12,164 | 12,534 |
| Dollar Change | (598) | (370) | |
| Percent Change | -4.77% | -2.96% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 7,242 | 7,469 | 7,840 |
| Dollar Change | (598) | (370) | |
| Percent Change | -7.63% | -4.72% | |
| Projected ROA | 1.85% | 1.91% | 2.00% |
| Net Interest Margin | 3.26% | 3.32% | 3.42% |

| Projected Earnings Analysis | Projected Income/Expense (Year 2) | | |
|-----------------------------|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 13,612 | 14,991 | 16,299 |
| Interest Expense | 2,267 | 2,902 | 3,364 |
| Net Interest Income | 11,344 | 12,089 | 12,934 |
| Dollar Change | (1,590) | (845) | |
| Percent Change | -12.29% | -6.54% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,650 | 7,394 | 8,240 |
| Dollar Change | (1,590) | (845) | |
| Percent Change | -19.30% | -10.26% | |
| Projected ROA | 1.70% | 1.89% | 2.10% |
| Net Interest Margin | 3.10% | 3.30% | 3.53% |

Moved \$10 Mil cash into RE, C&ST/A >10.7%

**Results: Improved base \$254K Yr1
Dn100 only lost \$53K, Dn200 only lost \$174k**

Scenario Testing – NMDs & CDs Don't Fall

| Projected Earnings Analysis December 31, 2023 | Projected Income/Expense (Year 1) | | |
|--|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,326 | 14,940 | 15,530 |
| Interest Expense | 3,052 | 3,237 | 3,250 |
| Net Interest Income | 11,274 | 11,703 | 12,280 |
| Dollar Change | (1,006) | (576) | |
| Percent Change | -8.19% | -4.69% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,580 | 7,009 | 7,585 |
| Dollar Change | (1,006) | (576) | |
| Percent Change | -13.26% | -7.60% | |
| Projected ROA | 1.68% | 1.79% | 1.94% |
| Net Interest Margin | 3.08% | 3.19% | 3.35% |

| Projected Earnings Analysis December 31, 2023 | Projected Income/Expense (Year 2) | | |
|--|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 13,148 | 14,582 | 15,954 |
| Interest Expense | 3,100 | 3,318 | 3,364 |
| Net Interest Income | 10,049 | 11,264 | 12,590 |
| Dollar Change | (2,541) | (1,326) | |
| Percent Change | -20.19% | -10.53% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 5,354 | 6,569 | 7,895 |
| Dollar Change | (2,541) | (1,326) | |
| Percent Change | -32.19% | -16.79% | |
| Projected ROA | 1.37% | 1.68% | 2.02% |
| Net Interest Margin | 2.74% | 3.07% | 3.44% |

MMKT 25.6% Dn beta ~~32%~~ 0% first Dn 100, then 10%

IRA Dn beta ~~25%~~ 0% first Dn 100, then 5%

Regs Dn Beta ~~5%~~ 0% first Dn 100, then 1%

CDs Dn Beta 10%

Results: lost \$513K Yr1, for Dn100, and \$836K for Dn200

Scenario Testing – Mitigate Deploy Cash

| Projected Earnings Analysis December 31, 2023 | Projected Income/Expense (Year 1) | | |
|--|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,971 | 15,417 | 15,835 |
| Interest Expense | 3,052 | 3,237 | 3,250 |
| Net Interest Income | 11,920 | 12,180 | 12,585 |
| Dollar Change | (665) | (405) | |
| Percent Change | -5.29% | -3.22% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 7,225 | 7,486 | 7,890 |
| Dollar Change | (665) | (405) | |
| Percent Change | -8.43% | -5.13% | |
| Projected ROA | 1.85% | 1.91% | 2.02% |
| Net Interest Margin | 3.25% | 3.32% | 3.44% |

| Projected Earnings Analysis December 31, 2023 | Projected Income/Expense (Year 2) | | |
|--|-----------------------------------|---------------|---------------|
| | -200 | -100 | Base Case |
| Interest Income | 14,133 | 15,285 | 16,368 |
| Interest Expense | 3,100 | 3,318 | 3,364 |
| Net Interest Income | 11,034 | 11,966 | 13,003 |
| Dollar Change | (1,970) | (1,037) | |
| Percent Change | -15.15% | -7.97% | |
| Non Interest Income | 3,778 | 3,778 | 3,778 |
| Non Interest Expense | 8,219 | 8,219 | 8,219 |
| Provision for Loan Losses | 253 | 253 | 253 |
| Net Income | 6,339 | 7,272 | 8,309 |
| Dollar Change | (1,970) | (1,037) | |
| Percent Change | -23.70% | -12.48% | |
| Projected ROA | 1.62% | 1.86% | 2.12% |
| Net Interest Margin | 3.01% | 3.27% | 3.55% |

Moved \$12 Mil cash into RE, C&ST/A >10%
Cut consumer loan down betas to 50%

**Results: Improved base \$305K Yr1
Dn100 only lost \$36K, Dn200 only lost \$191K**

Moving Forward

1. Originate loans that members desire

- Use loan participations - manage extension risk, credit risk, and achieve diversification
- Buy options don't force members into accepting them in their loan terms

2. Be disciplined in loan pricing

- Below market rates provide member value, but at a cost

3. Mind your credit risk

- Be selective of the credit you add to the balance sheet
 - Don't avoid making loans, but don't loosen underwriting standards

4. Ensure safe and sound liquidity position

- Uncertainty of potential deposit outflows is real
- Review balance sheet and secondary liquidity sources

5. Use investments to “balance” total balance sheet duration

- As long maturity loans increase on the balance sheet, buy shorter-term investments

Through the Looking Glass: The Future of ALM

Aaron Martini, CTP

Director ALM Services

martinia@catalystcorp.org



catalyst